

Exhibit E

UNITED STATES DISTRICT COURT
for the
Eastern District of Pennsylvania

JASON MARINO and JOY)	
MARINO, et al,)	
Plaintiffs)	
)	
V.)	CIVIL ACTION NO.
)	514cv046729(JLS)
)	
PILOT TRAVEL CENTERS, LLC,)	
et al,)	
Defendants)	

VIDEOTAPE DEPOSITION OF DR. ERIC BROWN

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<p>1 ... Deposition of Dr. Eric Brown being 2 of lawful age, held pursuant to the Rules of Civil 3 Procedure before Robert Miller, a duly qualified 4 Notary Public, within and for the State of 5 Connecticut, held at the Hyatt Regency Hotel, 6 Greenwich, Connecticut on August 27, 2015 at 10:14 7 a.m.</p> <p>8 STIPULATIONS</p> <p>9</p> <p>10 IT IS HEREBY stipulated and agreed by and 11 among counsel for the respective parties that all 12 formalities in connection with the taking of this 13 deposition including time, place sufficiency of notice 14 and the authority of the officer before whom it is 15 being taken may be and are hereby waived.</p> <p>16 IT IS further stipulated and agreed that 17 objections other than as to form are reserved to the 18 time of trial.</p> <p>19 IT IS further stipulated that the proof of 20 the qualifications of the Notary Public before whom 21 the deposition is being taken is hereby waived.</p> <p>22 IT IS further stipulated and agreed that 23 the reading and signing of said deposition by the 24 witness is hereby waived. 25</p>	<p>1 Pilot Travel Centers.</p> <p>2 THE VIDEOGRAPHER: Will the court 3 reporter please swear in the witness? 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>
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<p>1 THE VIDEOGRAPHER: We are now on the 2 record. This is beginning of DVD number 3 one in the deposition of Dr. Brown in the 4 matter of Marino versus Pilot Travel 5 Centers, LLC and Sovereign Consulting, Inc. 6 in the United States District Court for the 7 Eastern District of Pennsylvania, Case 8 Number 514 C.V. 04672 JLS.</p> <p>9 Today is Thursday, August 27, 2015 10 and the time is 10:14 a.m.</p> <p>11 This deposition is being taken at 12 the Hyatt Regency Hotel, Greenwich, 13 Connecticut at the request of Post & 14 Schell, P.C.</p> <p>15 The videographer is Chris Johnson of 16 Magna Legal Services and the court reporter 17 is Robert Miller of Magna Legal Services.</p> <p>18 Will counsel and all parties present 19 state their appearances and whom they 20 represent?</p> <p>21 MR. LYNAM: Tom Lynam for the 22 plaintiffs.</p> <p>23 MR. LAMB: Patrick Lamb for 24 Sovereign. 25 MR. HARRINGTON: Tom Harrington for</p>	<p>1 DR. ERIC BROWN, 2 called as a witness, having first been 3 duly sworn to tell the truth, the whole truth and 4 nothing but the truth, testified as follows:</p> <p>5 THE NOTARY: Please state 6 your full name and address for the 7 record.</p> <p>8 THE WITNESS: Eric Brown, 9 Stamford Nephrology, 30 Commerce 10 Street, Stamford, Connecticut 11 06902.</p> <p>12</p> <p>13 DIRECT EXAMINATION BY MR. LAMB:</p> <p>14 Q Doctor Brown, good morning. My name is 15 Patrick Lamb. I represent Pilot Travel Centers -- I 16 mean Sovereign Consulting. I represent Sovereign 17 Environmental Consulting. I am going to take your 18 deposition today.</p> <p>19 We spoke briefly before the deposition 20 about some protocols and stuff like that. You waived 21 reading and signing the deposition, as I understand 22 it, correct?</p> <p>23 A Yes.</p> <p>24 Q And you have indicated you're ready to 25 testify this morning, correct?</p>

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<p>1 A Yes.</p> <p>2 Q If at any time -- we are in a kind of an</p> <p>3 executive suite in the hotel room. If you're</p> <p>4 distracted by anything, please tell me and I will be</p> <p>5 happy to rephrase or restate any question. Okay?</p> <p>6 A I will. Thank you.</p> <p>7 Q We are here in Stamford, Connecticut which</p> <p>8 is the location of your offices, correct?</p> <p>9 A Yes.</p> <p>10 Q You're at 30 Commerce Road?</p> <p>11 A Yes.</p> <p>12 Q Pretty close to here?</p> <p>13 A Yes.</p> <p>14 Q Just a couple of things regarding your</p> <p>15 curriculum vitae. You are a nephrologist, am I</p> <p>16 correct?</p> <p>17 A Yes.</p> <p>18 Q What are you board certified in?</p> <p>19 A Internal medicine and nephrology.</p> <p>20 Q How long have you been board certified in</p> <p>21 nephrology?</p> <p>22 A Since probably around 1990.</p> <p>23 Q You went to Columbia undergraduate and</p> <p>24 Emory for medical school?</p> <p>25 A Yes.</p>	<p>1 Q So, in looking at this report. I have some</p> <p>2 questions for you about the report. What did you</p> <p>3 review to write this report? What records?</p> <p>4 A So I reviewed some reports and I have</p> <p>5 listed them. I reviewed the materials and engineering</p> <p>6 group report which was sort of a forensic report about</p> <p>7 Mr. Marino's clothing.</p> <p>8 I reviewed some pathology reports by Doctor</p> <p>9 Robert Coven and the Columbia pathology report which</p> <p>10 is the original pathology report. The report prepared</p> <p>11 by Dr. Neil Jenkins, depositions of the Marino family,</p> <p>12 basically.</p> <p>13 And then the medical records I had</p> <p>14 available were some outpatient records from Mr.</p> <p>15 Marino's primary care doctor, his dialysis records,</p> <p>16 there's an access center where he had some work done</p> <p>17 there, then St. Luke's Hospital, Allentown which was</p> <p>18 the admission during which he started dialysis and had</p> <p>19 a renal biopsy.</p> <p>20 Q So, your opinions start, I believe, on the</p> <p>21 second paragraph of page two, correct?</p> <p>22 A Yes.</p> <p>23 Q Then you say based upon my review of these</p> <p>24 records I've reached the following conclusions. You</p> <p>25 say first, then you list your conclusions, right?</p>
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<p>1 Q What was your residency in?</p> <p>2 A Internal medicine.</p> <p>3 Q Did you do a fellowship after that?</p> <p>4 A I did in nephrology.</p> <p>5 Q Where did you do your fellowship at?</p> <p>6 A At Yale.</p> <p>7 Q Okay. Now what do you do, do you treat</p> <p>8 patients on a regular basis?</p> <p>9 A I do.</p> <p>10 Q And how many patients do you see average a</p> <p>11 week?</p> <p>12 A I would say I see upwards of maybe 150 a</p> <p>13 week.</p> <p>14 Q In the office or in the hospital?</p> <p>15 A It is a mix, hospital/office and dialysis</p> <p>16 unit.</p> <p>17 Q Looks like you have two partners Dr. Hines</p> <p>18 and Dr. Chin?</p> <p>19 A Yes.</p> <p>20 Q We have your report August 14, 2015. Is</p> <p>21 this the only report you wrote in relation to this</p> <p>22 case?</p> <p>23 A It is.</p> <p>24 Q It is three pages, correct?</p> <p>25 A I believe so, yes.</p>	<p>1 A Yes.</p> <p>2 Q It is a pretty long paragraph. We will</p> <p>3 pare through that in a second. But did you rely upon</p> <p>4 the opinion provided by Dr. Coven in coming to your</p> <p>5 opinions?</p> <p>6 A Not so much. I had reviewed the Columbia</p> <p>7 pathology report and independently reached the opinion</p> <p>8 that there was acute renal failure on top of the</p> <p>9 chronic injury based on the description of the</p> <p>10 tubules. So I found Dr. Coven's report validating,</p> <p>11 but it wasn't part of my original opinion.</p> <p>12 Q And did you see anywhere in the Columbia</p> <p>13 report that indicated that there were acute renal</p> <p>14 changes?</p> <p>15 A Yes.</p> <p>16 Q Where?</p> <p>17 A Let me get the sentence.</p> <p>18 Q I will give you a highlighter. I will want</p> <p>19 to look at it. With that small type, I don't want to</p> <p>20 spend five minutes trying to find it.</p> <p>21 A Okay. Here it is. It is on page four of</p> <p>22 five. And the sentence that struck my eye when I</p> <p>23 initially read it was proximal tubule display, focal</p> <p>24 loss with apical brush border. And I highlighted</p> <p>25 that.</p>

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<p>1 All these pathology reports contain a 2 disclaimer, "clinical correlation as necessary". 3 So, as a clinical nephrologist looking at 4 the report, and knowing his clinical story, if someone 5 was fine and then got sick after exposure to an 6 nephrotoxin and actually looking for signs of an acute 7 injury, you can see the clinical information that the 8 pathologist has has unexplained renal insufficiency, 9 then smallish kidneys, and then toxic exposure versus 10 undiagnosed chronic kidney disease. 11 So, it doesn't really have as much clinical 12 history as I have from looking at the clinical 13 records. So, I am looking at this trying to put the 14 whole story together, a large part of which is the 15 biopsy finding. So, that proximal tubule display, 16 focal loss of apical brush border says to me that 17 there's an acute injury. So, I just found it 18 validating that Dr. Coven said the same thing or 19 interpreted it in the same way. 20 Q Biologically, why is the focal loss of the 21 brush border not just an incidental finding to your 22 opinion? 23 A I am almost embarrassed to answer it this 24 way, because I have been taught that the signs of 25 acute tubule injury can be subtle and this is what</p>	<p>1 Q And they are kind of independent bodies? 2 A Yes. 3 Q You can nod your head, but make sure you 4 say yes. 5 A All right. 6 Q And the interstitium is kind of the ground 7 between, I imagine them almost as trees and the 8 bushes, and the ground between the tubules and the 9 glomeruli is the interstitium, right? 10 A Yes. 11 Q And we showed extensive scarring to the 12 interstitium, correct? 13 A Yes. 14 Q What percentage of the glomeruli had been 15 sclerosed or compromised to the point that they 16 weren't functioning? 17 A The glomeruli was probably -- 18 Q I thought it was 75 percent. I could be 19 wrong. 20 A The number I have in my mind is 75 percent 21 of both. I think I can answer your question. 22 Q Don't get ahead of me here. So the 23 glomeruli, 75 percent of those are what they call 24 sclerosed or basically, out of commission, right? 25 A Yes.</p>
Page 11	Page 13
<p>1 they are. 2 Q I just want to go through the medicine with 3 you for a second. 4 A Okay. 5 Q There was extensive scarring to the 6 glomeruli, right? 7 A Yes. 8 Q And there was extensive scarring to the 9 interstitium. 10 A Yes. 11 Q So, we have extensive scarring to the 12 glomeruli which are the filters in the kidney that 13 filter the blood, right? 14 A Uh-hum. 15 Q You have the answer yes or no? 16 A I'm sorry, yes. 17 Q Then we have extensive scarring to kind of 18 tissue between the glomeruli? 19 A Yes. 20 Q And between the tubules? 21 A Yes. 22 Q So, if we look at a kidney and we look 23 inside, we would have these glomeruli, we have these 24 tubules, right? 25 A Yes.</p>	<p>1 Q So, if we look at Mr. Marino's kidney, we 2 are saying the glomeruli that filter the blood, three 3 quarters of those as of the date of the accident are 4 gone? 5 A Yes. 6 Q The tubules, I thought it was in the 7 sixties in terms of the percentage of those that had 8 been, basically, rendered inactive, am I right? 9 A Let me look at that. 10 Q I don't want to misquote the report. 11 A Right. I just want to be precise about 12 that too. 75 percent of both. 13 Q So, on May 5th Mr. Marino had a kidney that 14 at best had 25 percent of its tissue still viable? 15 A Yes. 16 Q And we know that those changes, those 17 75 percent changes were due to some type of chronic 18 disease? 19 A Yes. 20 Q But here is the problem, right, no one 21 knows what that chronic disease was? 22 A Right. 23 Q In other words, all the testing, all the 24 medical treatment he's gotten, no one has been able to 25 figure out why Mr. Marino had chronic kidney disease?</p>

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1 A Yes.

2 Q And by chronic, we mean over years. And I
3 don't think by your report, you don't disagree that
4 he's had changes to his kidneys that have been ongoing
5 for some time before he was at the Pilot Travel
6 Center?

7 A Oh, I think it was since childhood.

8 Q Okay. So, if we don't know what is causing
9 the chronic changes and you are going to come in here
10 and say well, I see some acute changes -- let's for a
11 hypothetical, let me agree with you that there may be
12 some acute changes, how can you determine that the
13 acute changes aren't due to what is causing the
14 chronic changes?

15 A So, what you have with the kidney biopsy is
16 you're looking at a cross-section of the kidneys. You
17 can't necessarily say which tubule is attached to
18 which glomeruli. I mean you can to some extent, but
19 not really. You have about million of the glomeruli
20 in each kidney. And when you lose 75 percent of them
21 you lose 75 percent of them. You have 25 percent
22 remaining. Those 25 percent have a glomerulus. And
23 they are attached to a proximal tubule and that tubule
24 is attached to a distal tubule and that produces
25 urine. That should be relatively intact. That is the

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1 way the disease works.

2 If you lose some of them and the remaining
3 ones are working and in fact, they are overworking,
4 which is why we as nephrologists think we can prevent
5 kidney disease from progressing. Because when you
6 have few remaining filters, the remaining ones are
7 working harder and they are in effect worn out, to put
8 it in a simplistic way.

9 Those tubules should be normal actually,
10 those proximal tubules. The thing that damages
11 proximal tubules is some kind of insult like a
12 nephrotoxic insult.

13 And this kind of damage reflects an acute
14 injury. This isn't glomerular disease that's
15 attacking the proximal tubule, it's not an
16 interstitial disease that's attacking the proximal
17 tubule. The proximal tubule is a very metabolically
18 active part of the kidney that is just very sensitive
19 to any sort of nephrotoxic injury. So, it is really
20 renal pathologists who are experts in this sort of
21 thing. But as a clinician, I understand it. And this
22 is the mechanism. And this is why this says to me
23 second acute injury. It's just a different disease
24 process completely.

25 Q Okay. I have two questions about that.

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1 Let me start with the first one. You said the
2 proximal tubules to your mind should acute injury.
3 You immediately told me due to a nephrotoxin. But it
4 is true, isn't it, that looking at the pathology one
5 cannot differentiate the cause of the tubular injury
6 that's seen on the biopsy. In other words, it didn't
7 have to be a nephrotoxin, it could have been another
8 cause?

9 A Well, I mean a nephrotoxin is something
10 that injures by definition, that's what a nephrotoxin
11 does. Your point is correct. This is where the whole
12 clinical correlation takes place. No pathologist can
13 tell you exactly what it is without the clinical
14 information.

15 Q For instance, if a patient had felt they
16 had the flu and had a couple of weeks before the
17 biopsy. And then they took a lot of Advil or
18 Ibuprofen thinking that would make them feel better.
19 I don't want to use the term overdose, but they had
20 too much, that could cause injury to the proximal
21 tubule that would show up as an acute injury?

22 A There is subtleties to it that a
23 pathologist should answer when they can say it was a
24 chemical nephrotoxin as opposed to ischemia which is
25 really what I would struggle to do. I shouldn't

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1 answer that. I would be a hypocritical correlation --
2 you are asking more detail than a clinical
3 nephrologist would know.

4 Q But in the Columbia pathology report there
5 was no differentiation on those brush borders in the
6 tubules as to what could have caused it. In other
7 words, there was not enough information in the
8 Columbia pathology report to say whether it was due to
9 ischemia or due to a nephrotoxin, right?

10 A That is really a question for a pathologist
11 because there are subtleties to that, where they will
12 say it looks more nephrotoxic than ischemic. I am not
13 trying to dodge the question, it is just out of my
14 area of expertise. But, yes, there's not enough
15 information for the Columbia pathologist to say what
16 it was.

17 Q Let me go back to that question and answer.
18 My question is, would you agree that there is not
19 enough information in the Columbia pathology report
20 for you as a pathologist to determine whether the
21 injury to the proximal tubule was ischemic or was due
22 to a nephrotoxin or was due to some other cause?

23 A Correct.

24 Q Did you review any literature concerning
25 the effects of diesel fuel on a kidney or anything

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<p>1 like that?</p> <p>2 A I did, yes.</p> <p>3 Q Which articles did you review?</p> <p>4 A Unfortunately, I didn't print them. I have</p> <p>5 them. I can provide the names of all of them to you,</p> <p>6 but it was a series of clinical case reports. It was</p> <p>7 a series from Temple. There was a study that showed</p> <p>8 some hydrocarbon exposure as an accelerator.</p> <p>9 Q You don't remember the literature you</p> <p>10 looked at necessarily right now?</p> <p>11 A The papers -- I remember the content but</p> <p>12 not the titles.</p> <p>13 Q Which case studies did you look at? I</p> <p>14 think we know them a little too well right now</p> <p>15 including myself. So, which ones do you remember</p> <p>16 looking at?</p> <p>17 A Probably the same ones you've seen.</p> <p>18 Q Which ones were there?</p> <p>19 A There is an older series from Temple.</p> <p>20 Q You say Temple, do you mean Temple</p> <p>21 University in Philadelphia?</p> <p>22 A Yes.</p> <p>23 Q I think I did print that one out.</p> <p>24 A Acute renal failure due to nephrotoxins.</p> <p>25 Q Could I see that one?</p>	<p>1 A I don't actually.</p> <p>2 Q Did you ever when you were a kid?</p> <p>3 A Yes.</p> <p>4 Q Did you ever have to fill up the gas tank</p> <p>5 on your mower?</p> <p>6 A Yes.</p> <p>7 Q And did you ever spill some?</p> <p>8 A Yes.</p> <p>9 Q On your hands?</p> <p>10 A Yes.</p> <p>11 Q And it's tough to get off, right?</p> <p>12 A Yes.</p> <p>13 Q In other words, the literature that is out</p> <p>14 there, what we have, it appears we have a 1964 article</p> <p>15 and then we have a couple of articles from the early</p> <p>16 '80s, I believe, and then a couple of the case studies</p> <p>17 from the late '90s. Do you recall that?</p> <p>18 A Yes.</p> <p>19 Q So would you agree there's a real absence</p> <p>20 of literature about the effects of diesel fuel on the</p> <p>21 kidneys given the prevalence of diesel fuel in our</p> <p>22 society?</p> <p>23 MR. LYNAM: Objection to the form.</p> <p>24 THE WITNESS: No. I think it is</p> <p>25 well-established that diesel fuel is a</p>
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<p>1 MR. LYNAM: That's the very old one?</p> <p>2 THE WITNESS: That's the older one.</p> <p>3 BY MR. LAMB:</p> <p>4 Q This was Reidenberg, right?</p> <p>5 A Yes. There was a letter to the editor from</p> <p>6 Lancet that referenced this paper and reported that</p> <p>7 case. The first English case. There was the man who</p> <p>8 washed his hair with diesel fuel. The sailor who</p> <p>9 drowned and was rescued, that case as well.</p> <p>10 Q But this paper, the Reidenberg paper,</p> <p>11 entitled Acute Renal Failure Due to Nephrotoxins is</p> <p>12 from 1964 and appears to be a case study of three</p> <p>13 cases, right?</p> <p>14 A Yes.</p> <p>15 Q It's not a controlled study of a large</p> <p>16 group of people?</p> <p>17 A No. Nor would there be, obviously, to give</p> <p>18 people diesel fuel and see what happens.</p> <p>19 Q You know, other doctors have said that. It</p> <p>20 is true, isn't it that people work with diesel fuel</p> <p>21 everyday, in refineries, gas stations and repair shops</p> <p>22 and they are exposed to it everyday, right?</p> <p>23 A I imagine they are not exposed in this way.</p> <p>24 How they are exposed is --</p> <p>25 Q Do you cut your own grass?</p>	<p>1 nephrotoxin. I don't feel like there's</p> <p>2 something missing from the literature.</p> <p>3 BY MR. LAMB:</p> <p>4 Q Okay. That was a different answer than I</p> <p>5 asked the question. My question was, you're right</p> <p>6 here on I-95 just past Stamford.</p> <p>7 A Yes.</p> <p>8 Q And I am sure that there's probably five or</p> <p>9 six gas stations in Stamford that probably sell diesel</p> <p>10 fuel for the truck drivers that pass through here?</p> <p>11 A Yes.</p> <p>12 Q So given the prevalence of diesel fuel in</p> <p>13 our society, it is a chemical that's widely available,</p> <p>14 don't you think that only having four case studies,</p> <p>15 say, since 1975 indicates that there's a absence of</p> <p>16 evidence in the literature for a link between diesel</p> <p>17 fuel and long-term kidney damage?</p> <p>18 MR. LYNAM: I object to the form.</p> <p>19 You are mistaking the facts. You are</p> <p>20 leaving out the studies with hundreds of</p> <p>21 people. You're misstating the literature.</p> <p>22 Instead of you summarizing a body of</p> <p>23 literature, you can give the doctor an</p> <p>24 article and ask him questions. He's not</p> <p>25 going to answer questions about your</p>

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1 cursory summary of a 50 year body of
2 medical literature.
3 MR. LAMB: Tom, I can ask him the
4 question, he can answer the question. It
5 is a discovery deposition.
6 BY MR. LAMB:
7 Q Could you answer the question please?
8 A If you could repeat it. Sorry.
9 Q Given the prevalence of diesel fuel in our
10 society, don't you think that having only four case
11 reports since 1975 in the literature indicates that
12 there's an absence of information regarding the effect
13 of diesel fuel on chronic kidney disease or long-term
14 kidney disease?
15 MR. LYNAM: Objection to the form,
16 misstates the facts.
17 BY MR. LAMB:
18 Q I am talking about the four case studies
19 not the other study done in France.
20 MR. LYNAM: Objection to the form.
21 Go ahead.
22 THE WITNESS: No, I think there's
23 good literature that diesel fuel is a
24 nephrotoxin. I don't think it is in
25 someone who spills gas on their hands, but

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1 I think there's plenty of evidence that
2 someone who has a significant exposure can
3 have kidney damage.
4 BY MR. LAMB:
5 Q Now, when you read those case studies, it
6 indicated to you unless I am wrong, I imagine, that
7 the damage from diesel is typically damage to the
8 tubules?
9 A Yes.
10 Q And that damage causes sclerosis of the
11 tubules or was there some other --
12 A It is just injury to the tubule cells.
13 Q Right. Did you also agree that the case
14 studies indicate that the damage to the tubules
15 reverses itself?
16 A Yes.
17 Q And that typically individuals like the
18 individual who's in the seawater in the Lee article
19 and who ingested diesel as well as had dermal exposure
20 or inhalation exposure, that his kidneys rebounded
21 after a week or two or some specified amount of time?
22 A That would be very typical. That is the
23 more typical course of exposure to nephrotoxin, that
24 is someone would recover.
25 Q Okay. When you say it is the more typical,

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1 isn't that the only course that nephrologists are
2 aware of? In other words, if there's diesel fuel
3 exposure, there is damage to the tubules and the
4 kidneys rebound back after a certain period of time?
5 I mean there are no case studies that show that damage
6 to the tubules continues into the future, right?
7 A Not that I saw. But no, the nature of sort
8 of a nephrotoxic kidney injury is that the tubule
9 cells will be damaged and we used to say that
10 essentially everybody recovers. So, when I say
11 essentially, 80-90 percent people will recover back to
12 near normal renal function.
13 The current thinking is that that is
14 probably not the case, the kidney are not the same
15 after someone has a sort of what's called an acute
16 kidney injury, which could be from a nephrotoxin or
17 flu and non-steroidal scenario you described. But
18 people may or may not recover completely. But
19 clinically significant kidney damage after something
20 like this is unusual.
21 You would have people with normal kidney
22 function who take a hit and get acute kidney injury
23 and should recover back to baseline. Almost always.
24 If they don't, then you probably thought incorrectly
25 about what mechanism of their kidney injury was.

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1 And then you have people who have really a
2 severe nephrotoxic injury who won't recover. Will end
3 up on dialysis and stay on dialysis. Then you have
4 people with chronic kidney disease with exposure who
5 are tipped over, which is the case here.
6 All of those are relatively typical
7 scenarios. With someone with normal kidney function,
8 exposed to a nephrotoxin even to the point where they
9 almost need dialysis or may need dialysis once or
10 twice will recover pretty good function again.
11 Q Is there any literature that -- where the
12 doctors did a biopsy of the individual three or
13 4 weeks or any amount of time greater than that after
14 exposure to diesel fuel?
15 A Some of the papers had biopsies. And I
16 would have to relook at them with that specific
17 question in mind. I couldn't answer that off the top
18 of my head.
19 Q Is there any cohort study or advance study
20 of more than -- a case study of more than one person
21 than where nephrologists or pathologists have looked
22 at a biopsy of an individual exposed to diesel who had
23 kidney effects and they have looked at the biopsy
24 taken six months later to determine if the injury to
25 the tubules had reversed itself? You see what I am

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1 saying?

2 A Right. You wouldn't do that in clinical
3 practice. Where you might do that is if someone has
4 an episode of acute kidney injury and then gets
5 protein in the urine, gets a second kidney disease
6 down the road and then you might do a biopsy. And you
7 sort of would be coincidental. But you wouldn't do a
8 biopsy on someone that's clinically recovered. What
9 you would look at is their kidney function and you
10 would expect it to be back to normal.

11 Q Right. And we agree on that. Exposure to
12 a nephrotoxin like diesel that can cause tubular
13 injury would in almost, you said 90 percent of the
14 cases result in return to normal function of the
15 kidney, right?

16 A In a healthy person, yes.

17 Q In a healthy person. Let's talking about
18 any person, even someone with chronic kidney disease.
19 What I am asking is, the real focus of a study that
20 could determine if diesel fuel caused more than
21 transient effects to the kidney would be for a
22 scientist to get a bunch of people who were exposed to
23 diesel fuel whether they had chronic kidney disease or
24 were of normal health and take a biopsy six months
25 after the exposure to determine if the tubules

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1 would need to do because clinical measures of kidney
2 function are insensitive to small changes in kidney
3 function. So you could take -- let's say, everybody
4 who is exposed to diesel fuel for X amount of time
5 loses ten percent of kidney function. And obviously,
6 I am not saying that happens, I'm saying
7 hypothetically that could. Standard clinical measures
8 of kidney function are insensitive if someone starts
9 with normal kidney function. So, to prove they have
10 long-term damage, you would have to do a kidney biopsy
11 down the road.

12 Q The reason you would have to do that is
13 because of the nature of the kidney that even when the
14 kidney has limited function left, even when only a
15 percentage of the kidney is still viable, the lab work
16 from that kidney, urine studies, and blood studies
17 could still show a "healthy kidney", right?

18 In other words, the kidney can trick the
19 lab work because it works overtime to compensate for
20 the portions of the kidney that sclerosed or die?

21 A With normal kidney function.

22 Q Sure.

23 A It's particularly insensitive if kidney
24 function is normal.

25 Q And just so we are clear, you are not aware

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1 actually did rebound fully or if there was permanent
2 damage, right? That is what you would really want to
3 see, if you really wanted to know the answer?

4 A Yes. Right. To sort of ask the abstract
5 question and answer it that way. You would do serial
6 biopsies.

7 Q Right. I understand that clinically that
8 may not be called for, but there's a lot of research
9 that takes place that might not necessarily follow
10 clinical rules or clinical processes, right?

11 A Right.

12 Q If you really want to know, if you really
13 wanted to say to yourself, hey listen, there's a bunch
14 of people out there who have exposure to diesel. We
15 know or at least we think based on case studies and
16 some other things that diesel is a nephrotoxin that
17 could cause a kidney injury to the tubules. You're
18 with me so far? You agree with all that?

19 A Yes.

20 Q But if you wanted to determine if those
21 damages from the diesel were long-term, you would have
22 to take a biopsy 3, 4, 5, 6 months out from the date
23 of exposure and then eliminate any other causes for
24 ongoing damage to the tubules, right?

25 A That would be the scientific study you

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1 of any studies of the ones we talked about where
2 someone actually did a biopsy six months out from the
3 toxic exposure to determine if the injury or insult
4 from the exposure to diesel was longstanding or just
5 transient, right?

6 A You are talking specifically about diesel?

7 Q Yes.

8 A I am not.

9 Q Are you aware of that for any of the
10 components of diesel?

11 A For other hydrocarbons?

12 Q Right.

13 A I just don't know. That wouldn't be
14 something I would know. I just wouldn't know.

15 Q So, when you opined that Mr. Marino had a
16 diesel exposure at the end of March 2014 and that that
17 caused acute changes in his kidney and that five
18 months -- I am sorry, approximately five weeks later
19 you're still seeing acute changes to the tubules, when
20 you link that to the diesel exposure, you are not
21 relying on a case study or literature or anything like
22 that, that is just your opinion based upon the
23 clinical record and the pathology?

24 A And a knowledge of clinical pathology, yes.

25 Q All right. What damage to Mr. Marino's

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1 kidneys made him stop working? Was it damage to the
2 glomeruli, damage to interstitium, the damage to the
3 tubules, what made him stop working?

4 A You mean the chronic disease --

5 Q No. No. When he presented St. Luke's
6 Hospital, I believe it was May 1, 2014 -- let me start
7 again.

8 When we presented to St. Luke's Hospital to
9 the emergency department in May 2014, what part of his
10 kidney brought him there? In other words, was it
11 glomeruli damage, was it damage to the tubules, was it
12 damage to the interstitium? What was it that made his
13 kidney stop working?

14 A The most likely mechanism was some
15 underlying disease and we don't know what that was.
16 Whether that was primarily glomerular or primary
17 tubular so that he was left with advanced primary
18 kidney disease.

19 What, in my opinion tipped him over was
20 then exposure to a nephrotoxin which would have
21 knocked out the remaining filters in effect.

22 Q I understand that is your opinion. I am
23 not trying to interrupt you. If I do interrupt you,
24 please tell me. I get a little impatient sometimes
25 with my questions. I don't want you to think that.

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1 Poor Mr. Miller here thinks I am talking a little
2 fast.

3 MR. LYNAM: You only talk fast when
4 you don't like the answer. You want to
5 interrupt him.

6 MR. LAMB: You're catching on to me.
7 BY MR. LAMB:

8 Q I get excited. I get juiced up by the
9 medicine a little bit. But my question is more
10 specific than that.

11 Looking at the component parts of Mr.
12 Marino's kidney, what part of his kidney failed that
13 stopped the kidneys from working? Was it damage to
14 the glomeruli -- I am sorry. Was it the loss to the
15 glomeruli? Was it the loss to the tubules? Was it
16 the interstitial disease? What was it?

17 A I think it is easier to think of just the
18 glomeruli and tubules was the nephrons. It was loss
19 of the remaining nephrons. And it was loss of the
20 remaining nephrons that he couldn't filter enough
21 toxins. So my belief would be that he had few
22 remaining nephrons, far fewer than a normal person
23 would have. And the remaining ones had this ATN or
24 nephrotoxic ATNs.

25 Q ATN necrosis?

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1 A Yes. And that is what tipped him over.

2 Q So, you're calling the nephrons are the
3 combination of the glomeruli and tubules?

4 A Yes.

5 Q The unit that was there?

6 A Yes. He didn't get a separate glomerular
7 disease. He didn't get a separate interstitial
8 disease. It wasn't a new mechanism of any sort, it
9 was a nephrotoxic injury.

10 Q I don't think anyone eliminated FSGS,
11 right?

12 A Well, he probably had FSGS. There's
13 primary FSGS and secondary FSGS. I don't think he had
14 primary FSGS because again we are dealing with
15 reasonable medical certainty and this looks more like
16 a disease that developed in childhood and slowly
17 progressed. Primary FSGS wouldn't typically do that.

18 Secondary FSGS, however, would be a
19 response to whatever he had. So, he probably did have
20 secondary FSGS.

21 Q Is it your testimony that he had this,
22 whatever this process was that was causing the damage
23 to his kidneys, he had it since he was a child, since
24 he was born?

25 A That is my bet, yes.

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1 Q And that it progressed over the course of
2 his life?

3 A Yes.

4 Q Would you agree that he was going to lose
5 function in his kidneys at some point in life?

6 A Yes.

7 Q No matter what happened?

8 A Yes.

9 Q Would you agree that during the course --
10 I think 30 years before he got to the Pilot Travel
11 Center that he probably was exposed to other
12 nephrotoxins?

13 A To what degree, I don't know. But sure, he
14 probably took an occasional Advil. He was probably
15 around other things as well I'm sure.

16 Q Well, we know from his testimony, I think
17 you read his testimony that certain of the machines he
18 used were powered by diesel fuel?

19 A Yes.

20 Q He, obviously, pumped his own gas on
21 occasion?

22 A Yes.

23 Q He cut his own lawn?

24 A Yes.

25 Q He used certain adhesives, I think in his

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1 plumbing business that were indicated as being toxic?

2 MR. LYNAM: Objection to the form.

3 Misstates the facts. There's no evidence
4 of that.

5 MR. LAMB: I think we have the MSDS
6 sheets.

7 MR. LYNAM: We do.

8 BY MR. LAMB:

9 Q Do you whether he used certain adhesives or
10 anything in his plumbing work that were nephrotoxins
11 or could be considered toxic?

12 A I don't recall.

13 Q We know that he had 30 years of exposure to
14 the world and the environment around us which includes
15 some nephrotoxins, right?

16 A Yes.

17 Q Something as simple as an Advil is a
18 nephrotoxin?

19 A Well, it's debatable, but it can be.

20 Q Well, in the right amounts. So --

21 A If someone takes five thousand pills over
22 your lifetime -- it is a debatable issue.

23 Q Okay. There's a black box warning on the
24 Advil label, right?

25 A Yes.

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1 Q Meaning the FDA has asked the manufacturers
2 of Advil and Ibuprofen and all the name brands to
3 place a warning on the label that says this drug can
4 cause kidney damage. It can cause other damage to
5 your body, right?

6 A Yes. It is a matter of context with other
7 medications and other illnesses, it certainly can in
8 the average healthy person. But I think that is so
9 tangential to this discussion.

10 Q I am sure you would like to see that. But
11 no one had a biopsy of Mr. Marino's kidney before he
12 got to the Pilot Travel Center, right?

13 A Correct.

14 Q And no one had any real lab work on his
15 kidney function before he got to the Pilot Travel
16 Center, right?

17 A I think it's fair to assume that the
18 nephrologist who saw him in his teens would have it.
19 I certainly hope so, but we don't know those results.

20 Q We don't know.

21 A Right.

22 Q So the day he showed up at Pilot, we don't
23 know what his kidney function was and how many
24 glomeruli or nephrons he had lost or where he was,
25 whether he was very close to that tipping point you

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1 talked about or far away from it, right?

2 A No, I think we know. I think we know that
3 he probably had about a third of his functional kidney
4 left.

5 Q Why do we know that? Why do you say that?

6 A From the scarring on the kidney biopsy,
7 that didn't develop over six weeks. So, I think he
8 probably had stage 3, 4 chronic kidney disease when he
9 walked in the door, six weeks before he came to the
10 hospital.

11 Q Maybe that's what I don't understand. How
12 can you say that the biopsy that was taken during the
13 first week of May gives you an indication of what his
14 kidney looked like five weeks before unless you agree
15 there were no substantial changes in those five weeks?

16 A Well, there's the difference between the
17 acute changes and the chronic stuff. Again, this
18 would be something more for the renal pathologist to
19 talk about, the chronicity of it.

20 As a clinician looking at this biopsy
21 report, my impression is that the scarring would have
22 been present for sort of months kind of thing and the
23 acute changes would be more acute than that.

24 Q But you can't sit here as a nephrologist
25 and tell us that the acute changes versus the chronic

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1 changes caused the final shut down of his kidney, can
2 you?

3 A No. I believe that you can say that the
4 acute changes caused the final shut down of his
5 kidney. He was absolutely fine, working and had no
6 symptoms prior to that and then was exposed to a
7 nephrotoxin and then got sick over the time course
8 that someone would become uremic with pretty much
9 complete renal failure. So, I do think you can as a
10 clinician say that, which is different from what you
11 can say as a pathologist. What is chronic, what's
12 acute.

13 As clinician I think you can clearly say
14 that this was a clinical course that evolved over time
15 after exposure.

16 Q Based on your information you have, what
17 percentage of the tubules showed acute changes?

18 A The findings are subtle and that is all I
19 can say as a nephrologist. Again, these are questions
20 that all the different pathologists should answer.

21 Q If you are going to provide the opinion
22 that these acute changes that you're seeing in the
23 Columbia report, that were not noted in the findings
24 of the Columbia report, are what allegedly pushed Mr.
25 Marino over the tipping point. If you are going to

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1 hold that opinion -- do you hold that opinion or do
2 you say I rely on the pathologists to hold that
3 opinion?

4 A No, I hold that opinion. I read this
5 report and thought as a nephrologist what my
6 understanding of renal pathology is that the findings
7 of ATN can be very subtle and if you see any of it at
8 all it means there's a substantial amount of it. And
9 this fits with my understanding of the clinical
10 course. So, I saw that as validating.

11 Q Where did you learn that if you see any
12 acute tubule necrosis at all that it is a substantial
13 amount of it?

14 A I don't know exactly where. It's something
15 -- a fact that I carry around.

16 Q If there was extensive acute tubule
17 necrosis, it would have been noted in the Columbia
18 pathology report, right?

19 MR. LYNAM: Objection.

20 BY MR. LAMB:

21 Q I mean you teach at Columbia, right?

22 A Yes.

23 Q Do you trust Columbia's pathologists?

24 A Yes.

25 Q You trust them to diagnose your own

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1 patients?

2 A Yes.

3 Q So, if they saw acute tubule necrosis to
4 any degree that they thought maybe more significant
5 than they were seeing, don't you believe those good
6 board certified pathologists at Columbia would have
7 noted it in their findings acute tubular necrosis?

8 A No. I think this is a typical pathology
9 report. And usually as a clinician I would call the
10 pathologist and talk about it with them. In fact they
11 call us. It's never just a report.

12 Again, all I can say that as a clinician
13 looking at this report, not having seen the patient,
14 but with an awareness of the clinical course and not
15 having directly talked to the pathologist that this
16 fits with a biopsy of someone with substantial chronic
17 kidney disease who has an acute injury, seen by the
18 subtle findings of tubular injury.

19 Q So, it is your opinion that there is no
20 chance that Mr. Marino's arrival at the emergency room
21 in early May in 2014 was due to just only the chronic
22 changes to his kidney?

23 A I don't think it was.

24 Q You don't think it was, is there any chance
25 it was?

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1 A I don't think to any reasonable medical
2 certainty there is.

3 Q Like what is the percentage chances it was
4 due from chronic as opposed to acute?

5 MR. LYNAM: No. He's not going to
6 answer that question. He's just said to a
7 reasonable medical degree of certainty it
8 was not related. Now you are going to ask
9 him to put numbers on that?

10 MR. LAMB: It is federal court
11 deposition. You can't do speaking
12 objections especially with an expert.

13 MR. LYNAM: I get that. But I think
14 the questions need to be fair.

15 MR. LAMB: I will ask it a different
16 way.

17 BY MR. LAMB:

18 Q What does that mean to a reasonable degree
19 of medical certainty to you? What percentage is that
20 out of 100 percent?

21 A It is somewhere more than zero, but less
22 than one. I think it is essentially inconceivable.
23 This is the disease I spent the bulk of my
24 professional life dealing with, namely chronic kidney
25 disease. And people with chronic kidney disease

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1 progress slowly. Particularly someone like this who's
2 probably had the disease since childhood. They don't
3 just go like that. A switch doesn't turn off and they
4 get symptoms without something else happening.

5 So, if there were no nephrotoxic events and
6 I will be vague about what nephrotoxic events would
7 be, but if it was just the course of chronic kidney
8 disease, I would not expect him to develop explosive
9 symptoms like that. I would expect him to
10 progressively become fatigue, have morning nausea,
11 metal taste in his mouth, insomnia, itch, trouble
12 sleeping, trouble with numbers. Sort of slowly
13 develop symptoms.

14 He is a young guy. Maybe his wife would be
15 the one who notices it. But he's also a hard working
16 guy, so he might have the symptoms of anemia. But
17 this would not be the typical course of chronic kidney
18 disease by any stretch of the imagination. This is a
19 typical course of someone with chronic kidney disease,
20 who has some superimposed injury.

21 And you are obviously well-versed in what
22 those injuries could be. It could be a bad case of
23 the flu. It could be taking a load of Advil. It
24 could be any number of things, but one of those things
25 is the one that he happened to have which is exposure

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1 to hydrocarbons or nephrotoxins. There's no doubt in
2 my mind that that is what this is.

3 Q How many cases have you had like this in
4 your career?

5 A Of patient with chronic kidney disease who
6 --

7 Q Let's start with the nephrotoxin and then
8 suffered kidney failure.

9 A It is a common situation. The bulk of my
10 professional life is spent following patients with
11 chronic kidney disease. Let's make it simple.
12 Because the recommendations for care, certain
13 guidelines for care are almost outrageous at their
14 face which is to take someone who feels perfectly well
15 with stage IV chronic kidney disease who might want to
16 go on dialysis at some point or might think about a
17 renal transplant, it's said that it is time to start
18 talking to them about measures like transplant listing
19 or preparation for dialysis. And they generally don't
20 believe that.

21 The conversation you have to have is you're
22 a bad case of the flu away from being on dialysis.
23 Particularly if it's an older person. Particularly if
24 you have late stage or chronic kidney disease. They
25 feel perfectly fine, but something could tip them

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1 over.

2 Q Okay.

3 MR. LYNAM: Let him finish.

4 THE WITNESS: A lot of time is spent
5 talking about that. And then how often
6 does it happen, how often does someone
7 unexpectedly end up on dialysis like this?

8 A Couple of times a year.

9 BY MR. LAMB:

10 Q Let me reask the question. I want to make
11 sure you heard my question. Then I will follow up
12 with a few things. How long have you been practicing
13 as a nephrologist?

14 A About 23, 25 years.

15 Q Let's say 25. I am not trying to age you.
16 Let's say, 25. How many cases have you had in this
17 25 years of someone who's had chronic kidney disease
18 who is exposed to a nephrotoxin that propels them into
19 renal failure? How many cases?

20 A I don't track that. I couldn't give you a
21 number.

22 Q Do you think you have had any?

23 A Yes.

24 Q How many? Less than ten?

25 MR. LYNAM: He just said he doesn't

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1 track it. Are you asking the witness to
2 guess?

3 MR. LAMB: I am not asking the
4 witness to guess, I am asking him to
5 estimate.

6 BY MR. LAMB:

7 Q Do you know if it is less than ten?

8 A Boy -- I just don't have an idea what the
9 number would be.

10 Q And how many patients over the course of
11 your 25 years have presented to you with underlying
12 chronic kidney disease exposure to diesel fuel
13 resulting in renal failure?

14 A Diesel fuel, I don't think I can say I have
15 seen.

16 Q How many patients that have presented to
17 you in these 25 years with underlying chronic kidney
18 disease exposure to hydrocarbon gasoline diesel fuel
19 oil that resulted in kidney failure?

20 A I've seen toluene intoxication, but not
21 other hydrocarbons to my knowledge.

22 Q Have you seen toluene intoxication
23 superimposed upon chronic kidney disease that leads to
24 renal failure?

25 A No.

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1 Q So, in terms of the effects upon the kidney
2 of a nephrotoxin, is there any study that measures a
3 dose response relationship between the amount of the
4 exposure to the nephrotoxin and the percentage damage
5 to the tubules in the kidney?

6 A I am sorry.

7 Q I will ask it again. I am looking for any
8 information you have in the literature or anywhere
9 else of a dose response relationship between exposure
10 to a nephrotoxin and resultant injury to the kidneys
11 in terms of percentage tubules or number of tubules
12 affected, anything like that?

13 A So, any nephrotoxin?

14 Q Any nephrotoxin.

15 A You are asking about --

16 Q I will ask it again. Is there some type of
17 mathematical formula, is there some type of way of
18 calculating saying if you're exposed to a nephrotoxin
19 for three hours to 30 percent of your skin or for six
20 hours to 40 percent of your skin, that your kidney
21 function will be effected as follows?

22 A I see. I am thinking how difficult that
23 would be to do because you have different size people,
24 different numbers of nephrons. The closest thing I
25 can think of is with Fleet phosphate soda literature

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1 where there's the nephrotoxin that includes use to
2 prepare people for colonoscopy that caused kidney
3 failure. And it wasn't biopsy studies but smaller
4 people and women were more likely to get permanent
5 renal failure and it was based on the size of the dose
6 for the size of the person. So, there's things like
7 that. I don't think there's studies like that.

8 That's a better question for some of the
9 other people -- the experts in this case. It's not
10 something that a clinical nephrologist would
11 encounter.

12 Q I have to probe the extent of your
13 knowledge. So, don't take it as anything other than
14 me trying to figure out where your knowledge begins or
15 ends or get close to that.

16 Are there any studies that show the results
17 of exposure to diesel fuel in particular on the
18 kidney? For instance, if you say if your skin is
19 exposed to this much diesel or this concentration for
20 this much time, it results in this percentage loss of
21 glomeruli or tubulus. It would just be tubulus -- I'm
22 sorry. Let me rephrase the question.

23 Is there any literature or any scientific
24 study or any scientific formula or anything scientific
25 which says exposure to diesel on your skin at this

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1 concentration results in this percentage loss or this
2 number of loss of tubulus or any other effect on the
3 kidney?

4 A So, that would be something that a
5 toxicologist would know more than I would. As
6 clinician the sort of evidence I look at is the case
7 reports.

8 Q What I'm getting at, you believe that Mr.
9 Marino had exposure to nephrotoxin diesel? You
10 believe that pushed him over the edge, but you can't
11 testify as to what percentage of the tubules or even
12 the nephrons were damaged by that exposure?

13 A Correct. Nor does that have relevance to
14 my opinion, but I can't testify to that.

15 Q Well, as you call it, the tipping point.
16 There's a point with Mr. Marino's kidneys where the
17 loss of the nephrons that includes the glomeruli and
18 tubules became so severe that his kidneys ceased to
19 function, right?

20 A Yes.

21 Q So, what was that percentage? Was that the
22 percentage reflected in the Columbia biopsy after his
23 kidneys failed?

24 A I don't understand the question.

25 Q Sure. There's a point at which Mr.

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1 Marino's kidneys shut down? They stopped working?

2 A Yes.

3 Q And that point can be quantified if you
4 look at the number of glomeruli and the number
5 tubules, right?

6 A Yes.

7 Q I mean we know, the Columbia biopsies show
8 it was taken after his kidneys failed, the biopsy,
9 correct?

10 A Yes.

11 Q So, we know after his kidneys stopped
12 working, there certainly was no more damage to them?

13 MR. LYNAM: Objection to the form.

14 THE WITNESS: They are still working
15 to some extent. There's ongoing damage.

16 BY MR. LAMB:

17 Q Explain that to me. If an individual is at
18 end stage renal failure and their kidneys stopped
19 working, could there still be damage to their
20 glomeruli and tubules?

21 A Yes, there is. There definitely is.

22 People will develop symptoms in about ten percent of
23 kidney function or less. The remaining kidney
24 function still actually has some benefits to them.
25 It's not enough to keep them healthy, but when added

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1 to dialysis or to a transplanted kidney, it's actually
2 important and it helps keep them feeling well. And
3 there's a lot of correlates between keeping your
4 residual kidney function on dialysis and survival.
5 So, it is a big issue in nephrology. I don't think it
6 has relevance here.

7 What I think it is important to understand
8 is that when they look at this biopsy -- his kidneys
9 we know are about eight centimeters on each side
10 because they were imaged. They are looking at a tiny
11 piece of kidney. They are looking at basically a
12 centimeter piece of kidney. That's the size of a
13 pencil lead in diameter. It's a small piece. And
14 they are making inferences about the rest of the
15 kidney. And those are pretty accurate, but so again
16 this goes to my point about the ATN. If you see ATN
17 on a little patch of biopsy, that has significance
18 when you put it together with the clinical facts.

19 Q You're not calling the Columbia biopsy
20 report unreliable, are you?

21 A No, I think it is completely reliable.

22 Q Let me get back to my other question. When
23 Mr. Marino first reported to the emergency room at St.
24 Luke's, he was in renal failure, right?

25 A Yes.

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1 Q There is no doubt about that?
 2 A Correct.
 3 Q When you're in that state of renal failure,
 4 the extent of renal failure that he has, where I
 5 believe, his lab work -- I am sorry I don't have it.
 6 Just give me second. I think his creatinine level was
 7 14, is that right?
 8 A Yes.
 9 Q So, his creatinine level of 14, means he
 10 was in renal failure?
 11 A Yes.
 12 Q When your creatinine level gets that high,
 13 do you continue to suffer damage to your kidneys just
 14 because the kidneys are working overtime? I think you
 15 said that earlier, right?
 16 A Yes.
 17 Q So, if he comes to St. Luke's on May 1st,
 18 he's in renal failure? He's not doing well,
 19 obviously. He's not healthy? He's not able to keep
 20 food down, not able to keep water down. He's in
 21 distress?
 22 A Yes.
 23 Q And the biopsy is not taken until -- can I
 24 have the Columbia report? It's taken on the fifth,
 25 right?

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1 MR. LYNAM: Yes.
 2 BY MR. LAMB:
 3 Q The biopsy is not taken until the fifth.
 4 Would you agree with me that there could have been
 5 changes in his kidneys over those three or 4 days?
 6 A I suppose. Not too significant, but the
 7 kind of thing I am talking about is the kidneys
 8 continue to damage themselves over time is something
 9 that happens over years.
 10 Q But my question is when a patient is in
 11 that extraordinary distress. You saw how he showed up
 12 in the emergency room, what his levels were and the
 13 fact he wasn't taking food and water, aren't there
 14 changes that still continue to take place in the
 15 kidneys between his admission to E.R. and when that
 16 biopsy is taken?
 17 A I don't think so. I mean not particularly.
 18 I think we just have different models of how this
 19 injured him. He had advanced chronic kidney disease,
 20 was exposed to a nephrotoxin that damaged -- again,
 21 obviously, this is my opinion, you know that, that
 22 damaged enough of his remaining kidney function so
 23 that he got all the progressive symptoms of kidney
 24 failure. Those include dehydration, severe acidosis,
 25 severe anemia, those in turn damaged his kidneys going

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1 forward. That continues as he goes to the E.R.
 2 When he's given fluid, there may be some
 3 restoration of volume depletion that is making his
 4 kidney function worse. But he needs dialysis.
 5 Dialysis itself can cause some injury to the kidney
 6 theoretically. But the tipping point or the
 7 precipitant is still the nephrotoxin.
 8 Q Can you sit there and say to a reasonable
 9 degree of medical certainty that the alleged acute
 10 changes that you saw at brush borders could not have
 11 been due to dehydration or something else that
 12 occurred in the week before he arrived at the E.R.?
 13 A To a legal degree of medical certainty, I
 14 don't think there was. It is a mix of things
 15 triggered by the nephrotoxin. So as you become uremic
 16 it's sort of a vicious cycle of downward spiral. So,
 17 part of uremia is getting behind it. So, it's part
 18 and parcel of the same process. To a reasonable
 19 degree of medical certainty, I think it is the
 20 nephrotoxin that tipped him over and nothing else,
 21 obviously based on testimony and medical records.
 22 Q If he had the flu after he was at Pilot
 23 Travel Center, would you question whether it was the
 24 flu or the alleged nephrotoxin that caused his tipping
 25 over as you say?

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1 A If any number of other things that could be
 2 potentially nephrotoxic happened, it would be hard to
 3 slice and dice it and come up with a single answer.
 4 There's multiple factors you would try to sort out.
 5 What it was it was something more dependent on the
 6 people who were treating him at the time, then I could
 7 get retrospectively looking at the records.
 8 Q If he had never gone to Pilot, just
 9 continued as a plumber, he had a bad case of the flu
 10 that winter, could you say whether or not that could
 11 have tipped him over to renal failure?
 12 A Really bad flu could. Terrible flu could,
 13 sure.
 14 MR. LAMB: Tom, you don't have
 15 anything, I guess?
 16 MR. HARRINGTON: One or two.
 17 MR. LAMB: Okay. Go ahead.
 18
 19 CROSS EXAMINATION BY MR. HARRINGTON:
 20 Q Doctor, would you list for me again the
 21 symptoms that you associate with someone who has
 22 suffered from acute kidney injury?
 23 MR. LYNAM: I will just object to
 24 the form. Asked and answered. You are
 25 asking him the exact same question that Pat

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1 already asked.

2 MR. HARRINGTON: You want me to
3 have the court reporter try to find it --

4 MR. LYNAM: Go ahead. Answer it
5 again.

6 MR. HARRINGTON: Pardon me. We are
7 both speaking at the same time and it makes
8 it very difficult for anybody to understand
9 what anybody is saying.

10 MR. LYNAM: Tom, I asked the witness
11 to go ahead and answer the question for a
12 second time for your benefit.

13 MR. HARRINGTON: Thank you very
14 much.

15 BY MR. HARRINGTON:

16 Q Go ahead Doctor.

17 A The answer I gave was actually, I think,
18 the symptoms of more uremia than acute kidney injury.
19 Someone with acute kidney injury would often not have
20 symptoms if it were just an acute kidney injury. They
21 might notice a drop in their urine output. Or they
22 might have symptoms associated with the cause of the
23 acute kidney injury. They might then go on to develop
24 the symptoms of kidney failure which is what I was
25 talking about. And some of those are nausea,

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1 typically morning nausea as opposed to nausea the rest
2 of the day that is often relieved by eating breakfast.
3 A metallic taste in the mouth, loss of interest in
4 meat, trouble with calculation, insomnia, itching,
5 symptoms of anemia which can be fatigue or shortness
6 of breath, sometimes headaches. Those are the main
7 ones anyway.

8 Q Now, were you just describing the symptoms
9 of someone who only had an acute kidney injury or is
10 that someone who had the acute kidney injury on top of
11 chronic kidney disease?

12 A No, it's neither of those. It's the
13 symptoms of someone with kidney failure or what would
14 be called uremia.

15 Q Okay. What are the symptoms then that
16 someone would experience if he had chronic kidney
17 disease and an acute kidney injury to exposure to a
18 toxin?

19 A They would typically not have symptoms of
20 their chronic kidney disease until very late. And
21 then if they had an acute kidney injury that tipped
22 them over into end stage kidney disease or uremic
23 symptoms, those would be the symptoms I mentioned.

24 Q How quickly would the symptoms that you
25 mentioned attributable to acute kidney disease present

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1 themselves following the exposure to the toxin?

2 A I would say it would be very variable.
3 This history is a pretty reasonable one that he had.
4 I think it was a week or so and then started
5 developing progressively worsening symptoms.

6 Q So, within a week, would you say?

7 A No, I don't think there's a really good
8 timeline. It would depend on the extent of their
9 chronic kidney disease and the extent of the acute
10 injury. I don't think that there would be sort of a
11 typical timeline. I would say his is typical of that.

12 Q And when did you say he began to develop
13 his symptoms?

14 A I will just try to get the dates correct.
15 I believe it was about a week or two after exposure.
16 And then about a month of progressive symptoms. But I
17 may want to look at the records to be sure about that.
18 Unfortunately, I didn't write down the exact dates in
19 my report. I look at it. It seemed very typical, but
20 didn't write down the dates. So I apologize about
21 that. I could provide that to you later after looking
22 at the records.

23 Q Would you agree or disagree that the
24 symptoms you described would normally present
25 themselves within four to 5 days after the exposure

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1 that caused the acute kidney injury?

2 A No, I would disagree.

3 Q And do you know how many days it was
4 between Mr. Marino's alleged exposure to the toxins
5 and his presentation to the hospital?

6 A The number that sticks in my mind is six
7 weeks, but I would want to double check on that.

8 Q That would be beyond what you would think
9 is normal for the presentation of the symptoms, would
10 it not?

11 A No. I think it would be very typical. It
12 would be variable how rapidly the symptoms would
13 develop. And it would be variable of what someone's
14 threshold to seek medical attention would be. So, I
15 don't think there's really a typical time course. I
16 think a couple of weeks and a month are definitely
17 within the range.

18 Q You think if someone suffered from all
19 those symptoms you described could do work as a
20 plumber everyday?

21 A I can tell you I'm amazed at what symptoms
22 people will put up with to go to work.

23 Q I guess you didn't hear or understand my
24 question.

25 A Could he still work as a plumber with those

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1 symptoms? And the answer is, yes.

2 Q No matter how severe they became?

3 A I'm amazed at how many symptoms people will
4 put up with to continue to work. It's astonishing.

5 Q We have fatigue, insomnia, bad taste in the
6 mouth, nausea, vomiting, inability to calculate and he
7 could still work as a plumber?

8 A I have people who do manual work like that
9 despite incredibly advanced kidney disease.

10 Q For five weeks?

11 A The person I am going to go see in my
12 office right after I finish this deposition is on
13 dialysis now, is learning to do home hemodialysis. Is
14 a carpenter and a contractor and I am been begging him
15 to start dialysis for the last probably two or three
16 months based on similar levels of kidney function to
17 Mr. Marino but with medical management. So, he's not
18 anemic and he doesn't have such a buildup of acid in
19 his blood and careful dietary management so his
20 potassium isn't high. Probably lost 30 pounds of
21 weight. Unable to sleep. He continued to work
22 because he has to. So, what people do amazes me.

23 Q And what did you say his job was?

24 A He is a carpenter and contractor. He was
25 actually doing roofing despite all of this. He was

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1 doing roofing and I was losing sleep because I was
2 worried that he was going to die from not being on
3 dialysis.

4 Q So why do you write that you disagree with
5 the conclusion reached by the nephrologist that
6 treated Mr. Marino while he was a patient at St.
7 Luke's?

8 A What conclusion is that? I don't think I
9 disagreed with them.

10 Q That the reason his kidneys failed was due
11 to chronic kidney disease and not any acute injury.

12 MR. LYNAM: Let me object the form,
13 it misstates the facts. What documents are
14 you referring to Tom?

15 MR. HARRINGTON: What we used as the
16 discharge summary in the deposition of
17 doctor -- what was his name?

18 MR. LYNAM: Doctor Datch who did not
19 review the Columbia report during the
20 treatment and was shown during the
21 deposition. That part of the testimony you
22 are talking about Tom?

23 MR. HARRINGTON: You were
24 representing that I was misrepresenting the
25 facts.

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1 MR. LYNAM: I just want to make sure
2 I understand your question because that
3 wasn't Datch's testimony. If you want to
4 point to a document we can pull it out for
5 the doctor.

6 MR. HARRINGTON: How about the
7 discharge summary?

8 THE WITNESS: I got the renal
9 consult in front of me now. The
10 nephrologist who saw him as an original
11 consultant, I believe, was Dr. Snyder.

12 MR. HARRINGTON: Yes. And he
13 deferred to his partner because he came in
14 on an emergency basis on a day of --

15 MR. LYNAM: Would you like the
16 witness to answer the question. You asked
17 the question and then you cut him off. Do
18 you want his answer or not?

19 MR. LAMB: Can I solve this problem?
20 Tom let me help you out. Hold on for a
21 second. I am sitting right here.

22 Tom I am going to refer the doctor
23 to page two of the discharge summary where
24 Dr. Datch's opinion is contained in there
25 and have him read that and maybe then you

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1 can reask your question.

2 MR. HARRINGTON: I appreciate your
3 assistance.

4 THE WITNESS: Yes. Okay.

5 BY MR. HARRINGTON:

6 Q Would you read it for me please?

7 A Sure. Out loud?

8 Q Yes. Please.

9 A "Dr. Datch's felt that he probably had
10 longstanding interstitial kidney disease and this was
11 probable cause of his end stage renal disease".

12 Q And you disagree with that conclusion by
13 Dr. Datch?

14 A Just a little bit. Because I think there
15 are nuances to the renal pathology that Dr. Datch
16 wasn't aware of at that time and I don't think
17 understood as of the time of his deposition. But his
18 medical care is excellent. Very good medical care. I
19 just disagree with that point.

20 Q Did you know Mr. Marino was seen by another
21 nephrologist for a second opinion at the request of
22 his family physician?

23 A I haven't seen those records. I saw
24 mention of it in Dr. Rudnick's report.

25 Q So, assuming that the doctor who gave the

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<p>1 second opinion to his family doctor came to the same 2 conclusion as Dr. Datch, you would disagree with that 3 nephrologist's opinion? 4 A No, that is not a fair question. I would 5 have to look at his records and see what evidence he 6 used to reach his conclusion. I might agree with him. 7 But I would need to look at his records. I'd need to 8 know exactly what his opinion was and how much he felt 9 was chronic and how much of it was acute. I think 10 regardless, when someone is giving opinions about Mr. 11 Marino's medical care, he's receiving excellent 12 medical care so there would be no disagreement there. 13 Again, I would have to look at the specifics of what 14 information he had, what conversations he had with the 15 pathologist and what his conclusions were. And I 16 would be happy to do that. 17 Q Do you think it is necessary for the 18 treating nephrologist to have conversations with the 19 pathologist? 20 A It is usual. It is typical in the standard 21 of care. Sometimes it is, sometimes it isn't. If 22 you're Dr. Datch taking care of Mr. Marino, it's not 23 clinically necessary at all. If you're Doctor Datch 24 who's going to be asked to give a specific opinion 25 about what portion of Mr. Marino's kidney disease is</p>	<p>1 MR. LYNAM: Next question Tom. We 2 are not accepting your inaccurate 3 summarization of the medical records. 4 MR. HARRINGTON: That is your 5 objection to the question? 6 MR. LYNAM: Yes. Ask the next 7 question, please, Tom. 8 MR. HARRINGTON: Are you 9 instructing the witness that he can't 10 answer it? 11 MR. LYNAM: Are you asking this 12 witness to accept your brief summarization 13 of what -- 14 MR. HARRINGTON: Is your 15 objection -- 16 MR. LYNAM: I didn't hear what you 17 said Tom. 18 MR. HARRINGTON: I said, is your 19 objection an instruction to the witness not 20 to answer my question? 21 MR. LYNAM: If I would have 22 instructed the witness not to answer, you 23 would have heard me say I instruct the 24 witness not to answer. 25 MR. LAMB: Tom, just reask the</p>
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<p>1 chronic or acute, then it would be necessary. But for 2 his medical care it would not be necessary. Again, I 3 have no criticism of Dr. Datch's medical care. It was 4 excellent. 5 Q If the opinion of the doctor who gave Mr. 6 Marino's family doctor a second opinion was the same, 7 namely that his kidney problems were the result of 8 chronic kidney disease, would you disagree with that 9 doctor's opinion? 10 MR. LYNAM: Tom, I am going to 11 object to the form. It misstates the 12 facts. If you want to show him 13 something -- 14 MR. HARRINGTON: Oh, should I make 15 the trip right now, Tom? 16 MR. LYNAM: No. I would have 17 assumed you would have prepared for the 18 deposition and if you had documents you 19 wanted to show to the witness, you would 20 have sent them to Pat and he would have 21 sent them to me so we could put them in 22 front of the witness. You're summarizing 23 -- 24 MR. HARRINGTON: Keep talking Tom. 25 Keep talking.</p>	<p>1 question. 2 MR. HARRINGTON: Court reporter, 3 read back my last question, please. 4 MR. LAMB: Tom, what I need to do, 5 Tom Harrington and Tom Lynam, for the 6 benefit of my good friend here Bob Miller 7 is to make sure because there is a delay on 8 the phone, when you guys get into an 9 argument let each other finish so Mr. 10 Miller can take down everything. I am sure 11 he's losing stuff. So, Tom Harrington 12 sometimes maybe silence is better until Tom 13 Lynam finishes in the room and then you can 14 respond. Do you know what I am saying? 15 MR. HARRINGTON: Yes, sir. 16 MR. LAMB: Tom Harrington, do you 17 need more than nine minutes to wrap up this 18 witness? 19 MR. HARRINGTON: I do not. 20 MR. LAMB: Go ahead, please, ask 21 your question. 22 BY MR. HARRINGTON: 23 Q Doctor, if the findings and conclusions of 24 the nephrologist who examined Mr. Marino at the 25 request of Mr. Marino's family doctor were the same</p>

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1 findings and conclusions that Dr. Datch reached,
2 namely that Mr. Marino's kidney problems were the
3 result of chronic kidney disease rather than an acute
4 kidney injury, would you disagree with the findings of
5 that nephrologist?

6 A I would want to look at the specific report
7 and hear what information he based that on, but I
8 would say that none of us disagree that much. There's
9 a lot of chronic kidney disease here. And it's my
10 opinion supported by the renal pathology that he was
11 tipped over by something. So, yes, there's a lot of
12 chronic kidney disease, but the nuances I think are
13 important. Not for his clinical care, but for
14 determining who's at fault, you will will.

15 Q Are you saying Doctor then that Dr. Datch
16 in the second opinion, the nephrologist, missed the
17 subtleties that you're relying on?

18 A I believe so. It is complicated. I
19 haven't seen the report of the other doctor. And
20 clinically this is chronic kidney disease in effect.
21 I don't know how else to answer that. You are asking
22 me to give my opinion about a report I haven't read.
23 I said what I think about Dr. Datch that he hadn't
24 seen the pathology report when he gave his opinion.
25 So that is all I can say about that. I am sorry.

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1 Q You mean Dr. Datch had not seen the
2 pathology report at the time of Mr. Marino's
3 discharge?

4 A I believe not. I just read Dr. Datch's
5 deposition. And I certainly think he did not talk to
6 the pathologist. I would want to look at that again.
7 I am sorry.

8 Q Let's try that again. Are you telling me
9 that you don't think that Dr. Datch had looked at the
10 pathology report from Columbia at the time Mr. Marino
11 was discharged?

12 A I don't recall. I would want to look at
13 his deposition again. As far as the clinical care of
14 Mr. Marino, Dr. Datch did exactly what he needed to
15 do, and I have no criticism of Dr. Datch's clinical
16 care.

17 Q No further questions.

18 MR. LYNAM: A couple of quick
19 follow-ups.

20 CROSS EXAMINATION BY MR. LYNAM:

21 Q Can you explain generally the types of
22 medication a patient will need after a kidney
23 transplant?

24 A Yes. They will usually need

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1 antihypertensive for the most part. Often they will
2 need Lorie medications and diabetes medications
3 depending on what immunosuppressants they need. They
4 will need an antibiotic typically or several sometimes
5 early in the course of a transplant. Then the main
6 thing they will need is the immunosuppressing
7 medications which are usually 2 or 3 medications.

8 Q And what precautions does a patient need to
9 take who's taking immunosuppressant medication?

10 A They need to be very careful about keeping
11 up regular cancer screening, in particular skin
12 cancer. They have to be careful about going outside.
13 Generally if they do, they need to have sun block.
14 And they need to be careful about being exposed to
15 infectious agents.

16 Q So, if somebody was, say for example, a
17 plumber who worked with waste sewage pipes, things of
18 that nature, would that kind of work be
19 contraindicated for a patient with that type
20 immunosuppressant medication?

21 MR. LAMB: Objection.

22 MR. LYNAM: You can answer.

23 MR. HARRINGTON: I am going to
24 object to these series of questions as
25 being beyond the scope of the doctor's

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1 expert report.

2 MR. LYNAM: Well, he's now in a
3 deposition. It was the defense's option to
4 depose this witness and now this is within
5 the scope of his testimony.

6 THE WITNESS: I would keep him out
7 of the sewers, yes.

8 BY MR. LYNAM:

9 Q So, the type of work that he was doing,
10 commercial and residential plumbing that had to do
11 with not only freshwater plumbing but the sewage
12 plumbing and working in pits and things of that
13 nature, that is something that you would not want to
14 see somebody with this type of medication engage in?

15 MR. HARRINGTON: Objection.

16 A Correct. And you would want to keep them
17 away from potential nephrotoxins.

18 (At which time the proceedings went
19 off the record.)

20 (After a recess off the
21 record, the following occurred.)

22 BY MR. LYNAM:

23 Q Doctor, are you familiar with what MSDS
24 sheets are?

25 A Yes.

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<p>1 Q Have you had occasion to rely on them in 2 the practice of medicine? 3 MR. LAMB: Objection. 4 A Yes. 5 Q I am going to ask you to assume for the 6 purpose of this question -- strike that. 7 You have seen the MSDS sheets in this case, 8 correct? 9 A Yes. 10 Q And they were MSDS sheets for toluene and 11 for diesel fuel, correct? 12 A Yes. 13 Q And did they list any adverse reactions 14 that would be expected with regard to the kidneys? 15 A Basic kidney injury. I forget the exact 16 wording. Kidney damage was a potential side effect. 17 Q So, the toluene MSDS sheet, I believe, said 18 that a target organ was kidney. And the diesel, I 19 believe said it would be an expected response from 20 skin absorption would be kidney damage. 21 When you as a physician see something like 22 that in a MSDS sheet, is that something you would rely 23 on as being scientifically valid? 24 A Yes. 25 MR. LAMB: Sorry, objection to the</p>	<p>1 We are going off the record. 2 (At 11:31 the deposition was concluded.) 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>
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<p>1 last question. 2 BY MR. LYNAM: 3 Q We talked about this tipping point and the 4 various things that could push a person with a chronic 5 kidney disease over this tipping point, would it be 6 fair to say -- 7 MR. LAMB: I will object -- fair to 8 say, Drew actually pointed this out to me 9 the other day. I have to object to is it 10 fair to say because everything in my mind 11 is fair to say. We had this debate before. 12 I am not trying to delay the video. Drew 13 just pointed it out to me the other day, 14 Tom Lynam, is it's fair to say. If you 15 could not use fair to say. I mean you can, 16 but I'm going to object to it here and at 17 trial. Everything is fair to say. 18 BY MR. LAMB: 19 Q I will withdraw the question. That's all. 20 MR. LAMB: I will not trying -- 21 BY MR. LAMB: 22 Q No more questions. Thank you. 23 MR. HARRINGTON: I would like a 24 transcript. 25 THE VIDEOGRAPHER: It is 11:31 a.m.</p>	<p>1 STATE OF CONNECTICUT) 2) ss: 3 COUNTY OF HARTFORD) 4 I, Robert Miller, a Notary Public, do 5 hereby certify that Dr. Eric Brown was by me first 6 duly sworn, to testify the truth, the whole truth, and 7 nothing but the truth, and that the above deposition, 8 was recorded stenographically pursuant to Notice by me 9 and reduced to printed transcript by me. 10 I FURTHER CERTIFY that the foregoing 11 transcript of the said deposition is a true and 12 correct transcript of the testimony given by the said 13 witness at the time and place specified hereinbefore. 14 I FURTHER CERTIFY that I am not a relative 15 or employee or attorney or counsel of any of the 16 parties, nor a relative or employee of such attorney 17 or counsel, or financially interested directly or 18 indirectly in this action. 19 IN WITNESS WHEREOF, I have hereunto set my 20 hand and seal of office at East Hartford, Connecticut, 21 this day of , 2015. 22 23 (SEAL) 24 Robert Miller, Notary Public 25 My Notary Commission Expires April 30, 2019</p>

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